

REMARKS

Fig. 2 has been amended as required. In addition, Replacement drawings have been filed which meet the margin requirements of 37 C.F.R. 1.84(g). Withdrawal of the objection of the drawings is respectfully requested.

Claims 1, 3, 5 and 6 stand rejected under Section 102 on the basis of Osaka et al., '918 and Yoshikawa et al., '892. Independent claim 1 has been amended to overcome this rejection, and Applicants traverse because neither reference discloses the amount of Ni in the NiFe film now recited in amended claim 1.

In claim 1, the amount of Ni in the NiFe film is $45 \leq \text{Ni} \leq 85$ wt%. An FeCo magnetic film includes an FeCo film/NiFe film used as the base layer of a plated FeCo magnetic film, and the amount of Ni in the NiFe film is $45 \leq \text{Ni} \leq 85$ wt%. By using NiFe film including Ni of $45 \leq \text{Ni} \leq 85$ wt%, crystallization of the FeCo film, which is formed on the NiFe film, can be controlled so as to limit the coercive force of the magnetic film. Because the plated FeCo film is formed on the base layer, high saturation magnetic flux density B_s and a low coercive force can be realized.

No cited reference discloses or suggests that the FeCo film/NiFe film is used as the base layer of the FeCo magnetic film and that the amount of Ni in the NiFe film, which constitutes the base layer, is $45 \leq \text{Ni} \leq 85$ wt%.

Osaka discloses an upper magnetic layer, a lower magnetic layer and a gap layer, which is formed therebetween. A magnetic layer of Co-Fe-Ni is disclosed, but the magnetic film of the present invention, which is constituted by the plated FeCo film whose

base layer is the FeCo film/NiFe film, is not disclosed at all.

Yoshikawa discloses a soft magnetic film capable of increasing saturation magnetic flux density B_s . A structure of the soft magnetic film is $(\text{Fe}_{1-a-b}\text{Co}_a\text{Ni}_b)_{100-x}\text{R}_x$. Yoshikawa does not disclose the use of FeCo film/NiFe film as the base layer for plating the FeCo film. Accordingly, withdrawal of this rejection is respectfully requested.

Claims 1-4 and 13 stand rejected under Section 102 on the basis of Kawasaki, '137. Claims 1-4 and 13 also stand rejected under Section 102 on the basis of Kawasaki, '757. Applicants traverse this rejection because neither reference discloses the amount of Ni in the NiFe film now recited in amended claim 1. Kawasaki also does not disclose the layer structure of the present invention.

Kawasaki discloses an upper magnetic layer, a lower magnetic layer and a gap layer, which is formed therebetween.

The present invention relates to a magnetic film having an upper magnetic pole layer or a lower magnetic pole layer as an element. Namely, the present invention does not define the entire magnetic film, in which magnetic layers are respectively provided on both sides of a gap layer.

For example, the layer structure of the magnetic film of the present invention is gap layer/(FeCo film/NiFe film) ← base layer/FeCo plated film.

On the other hand, the layer structure of the magnetic film of Kawasaki is $\text{Fe}_x\text{Co}_{1-x}$ /gap layer/ $\text{Fe}_x\text{Co}_{1-x}$ ($68 \leq x \leq 80$). The gap layer is made of a nonmagnetic metal, and a layered structure of $\text{Fe}_x\text{Co}_{1-x}$ (lower magnetic pole layer)/gap layer (nonmagnetic layer)/ $\text{Fe}_x\text{Co}_{1-x}$ (upper magnetic pole layer) is formed by plating. However, using the FeCo

film/NiFe film as the base layer and using the NiFe film including Ni of $45 \leq \text{Ni} \leq 85$ wt%, which are features of the present invention, are not disclosed in the Kawasaki reference at all. Accordingly, withdrawal of this rejection is also requested.

Claims 3 and 4 stand rejected under Section 103 on the basis of Kawasaki and Sano. Applicants traverse this rejection for the reasons given with respect to independent claim 1. Sano merely discloses adding a third element to a NiFe alloy so as to increase saturation magnetic flux density Gs. The present invention relates to the FeCo alloy film, so the intended magnetic film of the present invention is different from that of Sano.

Claims 5 and 6 stand rejected under Section 103 on the basis of Kawasaki, Osaka and Yoshikawa. Applicants traverse this rejection for the reasons given with respect to independent claim 1.

Claims 14-17 stand rejected. Claims 14-17 have been cancelled without prejudice, rendering this rejection and the separate rejection of claims 15 and 17 moot.

For the foregoing reasons, Applicants believe that this case is in condition for allowance, which is respectfully requested. The Examiner should call Applicants' attorney if an interview would expedite prosecution.

Respectfully submitted,

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In the Drawings:

Please replace the originally filed drawings with the enclosed replacement drawings. Applicants have corrected the drawings to meet the margin requirements and to correctly identify Fig. 2 as Prior art. A marked up copy of Fig. 2 is also enclosed.



FIG.1

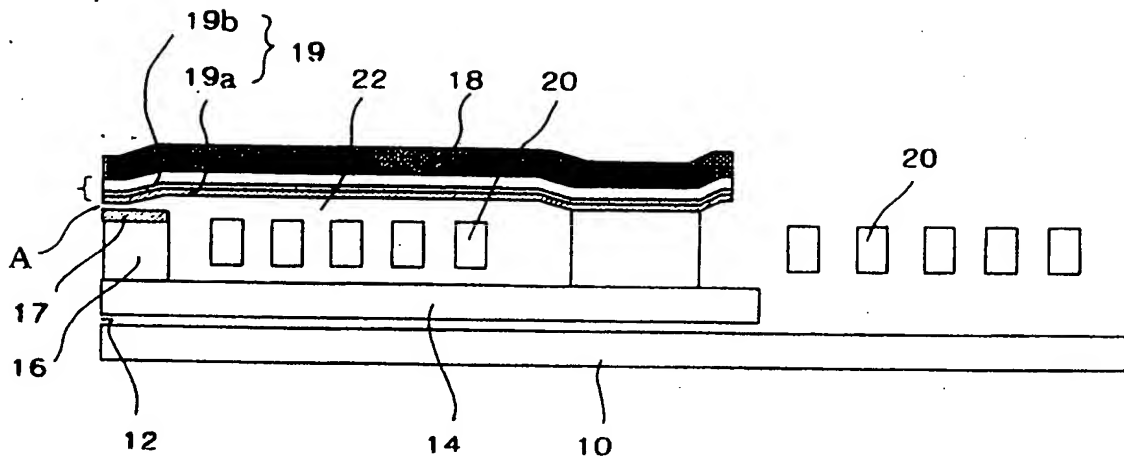


FIG.2 PRIOR ART

